COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

AN INVESTIGATION OF ENERGY CURTAILMENT AND OUTAGE RESTORATION PRIORITIES FOR ELECTRIC UTILITIES	)))	ADMINISTRATIVE CASE NO. 353

O R D E R

Severe winter weather conditions experienced in 1994 resulted in numerous electrical outages across Kentucky. As a result, the Commission received numerous complaints concerning restoration of service. At the same time, several Kentucky generating utilities established record peak loads and at least one issued public announcements seeking to reduce customer use of power. As a result of these events, the Commission is establishing this proceeding to consider:

1. Whether each electric utility should be required to establish a mandatory energy curtailment procedure to be used in the event that customer demand appears likely to exceed the utility's available supply of energy?

2. Whether each electric utility should be required to establish mandatory emergency restoration priorities which would be subject to approval by the Commission?

The Commission has considered similar issues on previous occasions. With respect to energy curtailment procedures, the

Commission found in Administrative Case No. 231[1] that electric distribution utilities should have emergency procedures available for implementation prior to the onset of an energy shortage. These procedures for the generation of electric power, Attachment 1, were to be followed during an energy shortage and established priority levels for the mandatory curtailment of electric power. Although the Order arguably applies in the event of any energy shortage, the actual procedures are specifically addressed to coal shortages. There are obviously other situations, such as high demand or mechanical failure which could preclude a utility from meeting demand. There are also different planning considerations, such as the amount of warning a utility may have, which should be considered in developing curtailment procedures. The utilities should address these issues in their comments.

The Commission addressed service restoration priorities in Administrative Case No. 345[2] and required each electric utility to

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[1] Order, dated October 14, 1980, Kentucky Utilities Company and Louisville Gas and Electric Company Contingency Plans for Emergency Procedures during an Energy Shortage. Subsequent cases were established for other electric utilities as follows: Administrative Case No. 238, East Kentucky Power Cooperative, Inc., and Big Rivers Electric Corporation; Administrative Case No. 239, Union Light, Heat and Power Company Emergency Procedures; Administrative Case No. 240, Emergency Procedures of the Electrical Distribution Utilities Who Are Served by East Kentucky Power Cooperative Corporation; Administrative Case No. 241, Emergency Procedures of the Electric Distribution Utilities Who Are Served by Big Rivers Electric Corporation; Administrative Case No. 243, Jackson Purchase Electric Cooperative Corporation Emergency Procedures.

[2] Administrative Case No. 345, Investigation into Electric Utilities Emergency Response Plans. Order, March 1, 1993.

file its current plan for responding to emergencies affecting its facilities or services. The Commission declined to adopt minimum standards for the plans.

The numerous complaints received during the major electrical outages of 1994 indicate the need to revisit the issue of priority restorations. Many complaints were received from customers who would appear to have a restoration priority, such as customers requiring some form of breathing apparatus. A complaint was also received concerning restoration of power to 12 microwave sites which are part of the Kentucky Emergency Warning System ("KEWS"). By letter, the Finance and Administration Cabinet's Division of Telecommunications suggested organization of a priority restoration list which would include KEWS along with other emergency services. See Attachment 2.

The Commission also notes the Telecommunications Electric Service Priority Restoration Initiative sponsored by the United States Department of Energy. The initiative promotes priority restoration of telecommunications facilities critical to national security and emergency preparedness. A copy of the initiative is Attachment 3. The utilities should comment on actions necessary to implement its recommendations.

To be effective, the number of restoration priorities should be kept to a manageable level. The utilities should suggest the criteria to be used to classify priority facilities. At the same time, rigid adherence to restoration priorities may impede a utility's efforts to restore its entire system. Some past problems

may also have been caused by the failure of customers properly to inform the utilities of their priority needs in advance. Utilities should address these issues in their comments, particularly whether minimum requirements should be established.

IT IS THEREFORE ORDERED that:

1. This investigation is established to consider issues relating to curtailment procedures and restoration plans of the electric utilities.

2. All jurisdictional electric utilities are parties to this proceeding.

3. Parties with existing curtailment and restoration plans shall file copies of their plans within 30 days of the date of this Order.

4. Parties without existing plans shall file proposed plans within 30 days of the date of this Order.

5. Comments on any issue in this proceeding shall be filed within 30 days of the date of this Order.

Done at Frankfort, Kentucky, this 20th day of January, 1995.

PUBLIC SERVICE COMMISSION

Chairman

Vice Chairman

Commissioner

ATTEST:

Executive Director

APPENDIX "A"

ENERGY EMERGENCY CONTROL PROGRAM

Purpose -- To provide a plan for reducing the consumption of electric energy on the Electric Distribution Utility Company (Company) system in the event of a severe coal shortage, such as might result from a general strike in the coal mines.

For the purpose of this program, the following priority levels have been established:

I. Essential Health and Safety Uses -- as defined in Appendix B

II. Residential Use

III. Commercial and Industrial Uses

IV. Nonessential Uses -- as defined in Appendix C

It is the intent of this Program that the Company's wholesale customers will be treated in a manner consistent with the curtailment procedures applicable to the Company's retail customers. Implementation in the case of wholesale customers will be in accordance with the curtailment provision contained in the service agreement between the parties or the applicable tariff.

Procedures -- In the event of a potential severe coal shortage, such as one resulting from a general coal strike, the following steps will be implemented. These steps will be carried out to the extent not prohibited by contractual commitments or by order of the regulatory authorities having jurisdiction. The "days'" operation referred to below will be furnished by the generation and transmission utility which supplies the wholesale power to the company.

I. To be initiated when fuel supplies are decreased to 50 days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:

1) Curtail the use of energy in all company offices, plants, etc.

II. To be initiated when fuel supplies are decreased to 40 days' operation of coal-fired generation and a continued downward trend in coal stocks is anticipated:

1) Discontinue all short-term sales to neighboring utilities.

2) Limit emergency deliveries to neighboring utilities to situations where regular customers of such utilities would otherwise be dropped or where the receiving utility agrees to return like quantities of energy within 14 days.

3) Curtail electric energy consumption by customers on interruptible contracts to a maximum number of hours of use per week as negotiated within the context of the contract provisions.

4) Purchase energy from neighboring systems to the extent practicable.

5) Purchase energy from industrial customers with generation facilities to the extent practicable.

6) Through use of the news media and direct customer contact, appeal to all customers, both retail and wholesale, to voluntarily reduce their use of electric energy as much as possible, and in any case endeavor to reduce the nonessential usage of electricity (Priority Level IV) by at least 25%.

7) Utilize voltage reduction as a means of reducing KWH consumption if this is deemed a feasible and viable measure in the Company's service area.

8) The Company shall advise customers of the nature of the mandatory program to be introduced in Section III below through direct contact and mass media, and establish an effective means of answering specific customer inquiries concerning the impact of the mandatory program on his electricity availability.

III. To be initiated -- in the order indicated below -- when fuel supplies are decreased to 30 days' operation of coal-fired plants and continued downward trend in coal stocks is anticipated:

1) Discontinue emergency deliveries to neighboring utilities unless the receiving

utility agrees to return like quantities of energy within 7 days.

2) Implement mandatory curtailment of electric service to all customers as indicated below:

(a) Priority Level IV - 100%

(b) Priority Level III - 25% (based on the "monthly base period use" as defined in Appendix D)

(c) Priority Level II - 15%

3) The Company shall advise all customers of the mandatory program specified in Section IV below.

IV. To be initiated when fuel supplies are decreased to 20 days' operation of coal-fired generation and continued downward trend in coal stocks is anticipated:

1) Implement mandatory curtailment of electric service to all priority levels (including Priority Level I) at a minimum service level which is not greater than that required for protection of human life and safety, protection of physical plant facilities, and employees' security.

2) The Company shall advise all customers of the mandatory program specified in Section V below.

V. To be initiated as a measure of last resort when fuel supplies are decreased to 15 days' operation of coal-fired generation and continued downward trend in coal stocks is anticipated:

1) Implement procedures for interruption of selected distribution circuits on a rotational basis, while minimizing -- to the extent practicable -- interruption to Priority Level I.

With regard to mandatory curtailments identified in Sections III, IV and V above, the Company proposes to monitor compliance after the fact, to the extent feasible, as approved by the Commission. A customer exceeding his electric energy allotment would be warned to curtail his usage or face, upon

continuing noncompliance and upon one day's written notice, disconnection of electric service for the duration of the energy emergency.

Termination of Energy Emergency -- The Energy Emergency Control Program shall be terminated upon notice to the Commission, when (a) the remaining days of operation of coal-fired generation is at least 20 days, (b) coal deliveries have been resumed, and (c) there is reasonable assurance that the coal stocks are being restored to adequate levels.

APPENDIX "B"

ESSENTIAL HEALTH AND SAFETY USES

Essential health and safety uses given special consideration in these procedures shall, insofar as the situation permits, include the following types of use and such other uses which the Commission may subsequently identify:

(a) "Hospitals", which shall be limited to institutions providing medical care to patients.

(b) "Life Support Equipment", which shall be limited to kidney machines, respirators, and similar equipment used to sustain the life of a person.

(c) "Police Stations and Government Detention Institutions", which shall be limited to essential uses required for police activities and the operation of facilities used for the detention of persons. These uses shall include essential street, highway and signal-lighting services.

(d) "Fire Stations", which shall be limited to facilities housing mobile fire-fighting apparatus.

(e) "Communications Services", which shall be limited to essential uses required for telephone, telegraph, television, radio, and newspaper operations.

(f) "Water and Sewage Services", which shall be limited to essential uses required for the supply of water to a community, flood pumping and sewage disposal.

(g) "Transportation and Defense-related Services", which shall be limited to essential uses required for the operation, guidance control and navigation of air, rail and mass transit systems, including those uses essential to the national defense and operation of state and local emergency services.

(h) "Other Energy Source Services", which shall be limited to essential uses required for the production, transportation, transmission and distribution -- for fuel -- of natural or manufactured gas, coal, oil or gasoline.

(i) "Perishable Food or Medicine", which shall be limited to refrigeration for the storage and preservation of perishable food or medicine, when that use is substantially all of the customer's load.

Although these types of uses will be given special consideration when implementing the manual load-shedding provisions of this procedure, these customers are encouraged to install emergency

generation equipment if continuity of service is essential. In case of customers supplied from two utility sources, only one source will be given special consideration. Also, any other customers who, in their opinion, have critical equipment should install emergency generation equipment.

APPENDIX "C"

NONESSENTIAL USES

The following and similar types of uses of electric energy and others which the Commission may subsequently identify shall be considered nonessential for all customers:

(a) Outdoor flood and advertising lighting, except for the minimum level to protect life and property, and a single illuminated sign identifying commercial facilities when operating after dark.

(b) General interior lighting levels greater than minimum functional levels.

(c) Show-window and display lighting.

(d) Parking-lot lighting above minimum functional levels.

(e) Energy use greater than that necessary to maintain a temperature of not less than 78 degrees during operation of cooling equipment and not more than 65 degrees during operation of heating equipment.

(f) Elevator and escalator use in excess of the minimum necessary for non-peak hours of use.

(g) Energy use greater than that which is the minimum required for lighting, heating or cooling of commercial or industrial facilities for maintenance cleaning or business-related activities during non-business hours.

APPENDIX "D"

MONTHLY BASE PERIOD

"Monthly Base Period Use" is defined as the customer's usage during the *corresponding monthly billing cycle of the twelve monthly* billing periods immediately prior to December 31 of the year immediately preceding the current year, adjusted to reflect any increases or decreases of load in the most recent three-month period due to the installation or removal of equipment or a change in operating rate as computed in the formula.

Upon application by the customer and agreement by the Company, a one-time adjustment of the monthly energy use of the twelve-month billing period ending December 31 of the year immediately preceding the current year, or an adjustment of the prior three-month usage (PQKWH), will be made to correct any abnormalities of energy use resulting from such events as strikes and breakdowns of major equipment that may have occurred during the period in question. For customers connected after December 31 of the year preceding the current year by one year, base period energy use will be negotiated between the customer and the Company.

$$AMBP = CM \times \frac{PQ}{BPQ}$$

WHERE:

AMBP = Adjusted Monthly Base Period (KW or KWH).

CM = Corresponding month during the year immediately preceding the current year.

PQ = Average use (KW or KWH) for the second, third and fourth monthly billing periods immediately prior to the date of the curtailment order. Should a curtailment be extended so that one of the three monthly billing periods reflects usage under a curtailment period, the actual billing for that month is replaced with the AMBP previously calculated for that month.

BPQ = Average of corresponding three monthly billings prior to CM.

Example: (Curtailment ordered during month of May 1977)

1st Curtailment Month

Since the April 1977 billing may not always be available, then for uniformity to all customers -- from the time curtailment is ordered until the May meter reading date:

$$\text{May '77} = \frac{\text{(Jan., Feb., March) '77}}{\text{(Jan., Feb., March) '76}} \times \text{May '76}$$

2nd Curtailment Month

$$\text{June '77} = \frac{\text{(Feb., Mar., April) '77}}{\text{(Feb., Mar., April) '76}} \times \text{June '76}$$

3rd Curtailment Month

Since May '77 will reflect electric use under a curtailment, May '77 will be replaced with May '77 as calculated in the 1st Curtailment Month:

$$\text{July '77} = \frac{\text{(Mar., Apr., May) '77}}{\text{(Mar., Apr., May) '76}} \times \text{July '76}$$

NOTE: The nomenclature for any one billing period is determined by the last reading date in the period, i.e., a bill from April 2 to May is considered by May billing period.

ATTACHMENT 2

BRERETON C. JONES
GOVERNOR

W. PATRICK MULLOY, II
SECRETARY

FINANCE AND ADMINISTRATION CABINET
DEPARTMENT FOR FACILITIES MANAGEMENT
DIVISION OF TELECOMMUNICATIONS
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R. CLARK BEAUCHAMP
COMMISSIONER

J. PAUL WARNECKE
DIRECTOR

March 4, 1994

Mr. Don Mills, Executive Director
Kentucky Public Service Commission
730 Schenkel Lane
Frankfort, Kentucky 40601

Priority for Power Service Restoration.

Dear Mr. Mills:

The winter storms of January and February pointed up two important truisms. The Kentucky Emergency Warning System (KEWS) is a vital communications facility for use by public safety agencies during all types of emergencies. And KEWS needs electrical service to continue its operation.

KEWS has stand-by power facilities to keep every radio repeater site operating for up to eight (8) hours when commercial power fails. In the recent storms, some service was not reestablished for several days.

KEWS Branch Manager, Jim Pierce, spoke to Mr. Wayne Bates of your staff recently concerning the possibility of organizing a priority restoration list for electric utilities that would include KEWS along with other emergency response entities. I am writing in the hope that we might follow up on this suggestion and with the cooperation of all parties spearhead an effort that would permit a more organized effort in the restoration of electrical service when such incidents recur.

We would welcome the opportunity to work on such a restoration plan an look forward to cooperating with the Public Service Commission in such an effort.

Sincerely,

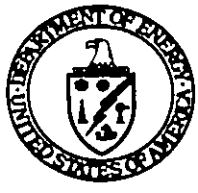
J. Paul Warnecke, Director

c: Commissioner Clark Beauchamp
Jim Pierce, Jr.
Wayne Bates

DOE/OE-0002

TELECOMMUNICATIONS ELECTRIC SERVICE PRIORITY RESTORATION INITIATIVE

An Introduction for Telecommunications Industry, Electric Utility Industry and State Officials



February 1993

U.S. DEPARTMENT OF ENERGY
Office of Emergency
Planning and Operations
Washington, DC 20585

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U.S. Department of Energy
Office of Emergency Planning and Operations
Washington, DC 20585

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Telecommmunications Electric Service Priority (ESP) Restoration Initiative

It is the policy of the United States Government to meet National Security and Emergency Preparedness (NS/EP) requirements, including adequate and secure electric energy supply to critical telecommunications facilities. If electric supplies to critical telecommunications facilities are disrupted for any reason (e.g., natural disaster, widespread technological breakdown, military attack), essential national defense requirements and essential civilian requirements may not be met.

Electric utilities have priority systems in place for restoring electric service to specific customers in the event of threatened or actual electric power supply emergencies. Existing priority restoration systems reflect primarily essential State and local needs.

The purpose of this Federal initiative is to promote modification of existing electric utility emergency priority restoration systems to include telecommunications facilities considered critical to NS/EP. Once this is accomplished by appropriate State officials and utilities, emergency procedures will be in place that can be implemented by each utility during electric supply emergencies.

To achieve this objective on a realistic and completely voluntary basis, the Office of Emergency Planning and Operations, U.S. Department of Energy (DOE), has developed and tested in two States (New Hampshire and Maryland) a pilot program entitled "Telecommunications Electric Service Priority (ESP) Restoration Initiative."

On the basis of the experience gained during the two-State test, the DOE Office of Emergency Planning and Operations now wishes to expand the initiative to all other States (and U.S. territories and possessions).

The purpose of this brochure is to explain the origin and intent of the initiative in sufficient detail to serve as a reference for interested parties, which include representatives of government, electric utilities and telecommunications companies.

As described in more detail in this brochure, implementation of the initiative consists of the following steps:

- DOE obtains from the National Communications System (NCS) a list of critical telecommunications facilities, sorted by State, and provides each State with its list.
- Assistance is available if a State needs help in identifying telecommunications facilities that serve its critical users. In this case, the State should provide a list of telephone numbers of such users to DOE. DOE will obtain from NCS a list of any additional telecommunications facilities that may be involved and forward this supplemental information to the State.
- State officials, on a voluntary basis, determine how to best implement the initiative and distribute the list of critical facilities to electric utilities in their State;
- Electric utilities identify the critical telecommunications facilities on the list they serve and, on a voluntary basis, modify their ESP plans to include these facilities;

- During an electric power disruption, electric utilities normally proceed with priority restoration to critical telecommunications facilities only upon the request of the telecommunications company;
- Telecommunications facilities not on the critical facility list may also be essential in certain circumstances. Such restoration requirements will be coordinated by telecommunications companies and electric utilities on an "as needed" basis; and, lastly
- The NCS annually reviews the State lists of critical telecommunications facilities and advises DOE of any modification which may be needed. DOE forwards this information to the affected States.

Also described in this brochure are criteria used to identify critical telecommunication facilities and several other factors which may adversely affect the rapid restoration of telecommunications service.

Since this brochure is intended for use by several diverse groups, a glossary of acronyms and technical terms is included.

TELECOMMUNICATIONS ELECTRIC SERVICE PRIORITY (ESP) RESTORATION INITIATIVE:

An Introduction for Telecommunications Industry, Electric Utility Industry and State Officials

INTRODUCTION

Telecommunications services are essential for maintaining a state of readiness or responding to any event which could cause harm to the population, damage to property or a threat to the security of the United States.

Telecommunications facilities depend on commercial electric power. Most critical telecommunication industry facilities have either battery and/or generator power that is automatically applied when commercial power fails. When power fails, facilities with only battery backup can usually operate for 3 to 12 hours. These batteries can be recharged by telecommunication crews if they are allowed access to the impacted area. Facilities with backup generators can operate for extended periods if fuel can be resupplied when needed, assuming backup generators do not break down.

The primary purpose of this guide is to provide an overview of an initiative for emergency priority restoration of commercial electric power to critical telecommunications facilities: the Telecommunications Electric Service Priority (ESP) restoration initiative. The guide also discusses emergency fuel resupply for backup telecommunications generators and access to telecommunications and electric utility facilities and customers in disaster areas.

A glossary of acronyms and technical terms may be found at the end of this brochure.

UTILITY ESP SYSTEMS

Utilities have ESP systems for emergency restoration of service to categories of customers in the event of electric power supply disruptions. These ESP systems reflect primarily essential State and local needs during peacetime conditions and typically include:

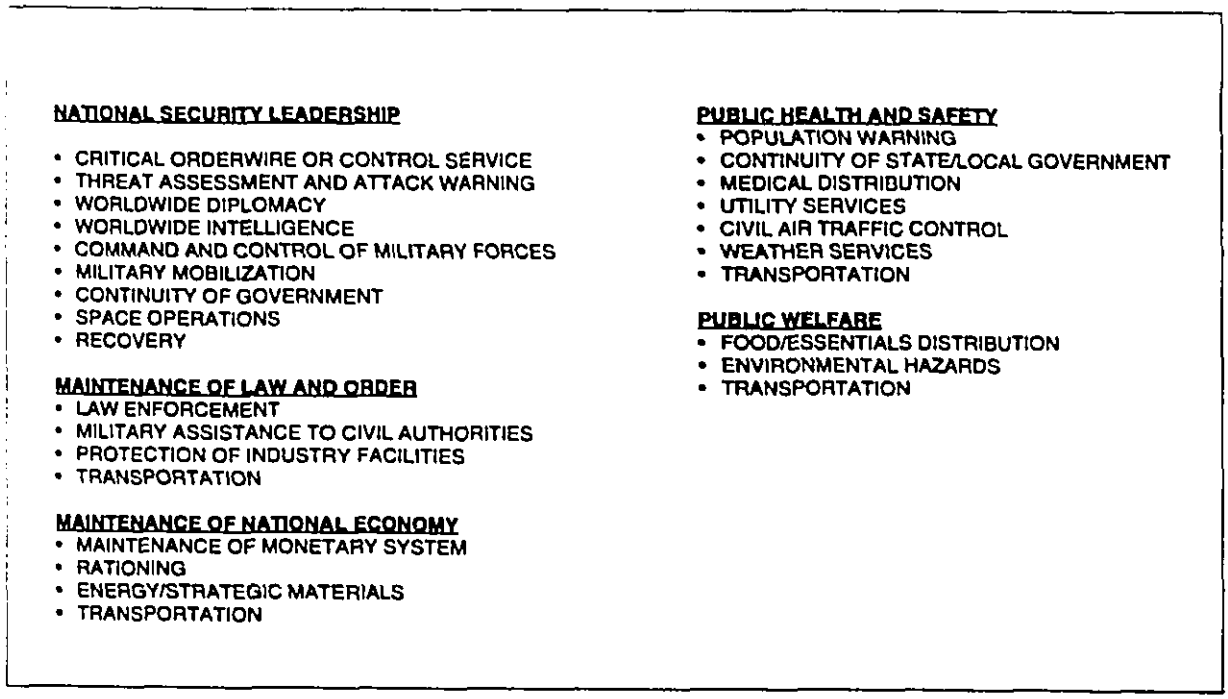
- Life Support
- Medical Facilities
- Police and Fire Stations
- Public Transportation and Shipping
- Communications (Telephone, Telegraph, Radio, TV)
- Water Supply and Sewage
- State/Local Emergency Services

The purpose of this initiative is to request that States and electric utilities modify existing ESP systems by adding a limited number of **specific** telecommunications facilities that address National Security and Emergency Preparedness (NS/EP) requirements. NS/EP requirements are defined to include essential national defense requirements and essential civilian requirements as specified by the Federal government. Typical NS/EP functions are shown in Figure 1.

DEVELOPMENT OF THE TELECOMMUNICATIONS ESP INITIATIVE

The telecommunications ESP initiative was developed by the Department of Energy (DOE) in coordination with the National Communications System (NCS) and the Energy Task Force (ETF) of the

Figure 1
TYPICAL FUNCTIONS:
NATIONAL SECURITY AND EMERGENCY PREPAREDNESS



President's National Security Telecommunications Advisory Committee (NSTAC). For this initiative, the pertinent roles of these organizations are as follows:

- **DOE:** The Secretary of Energy (and other members of the Cabinet) is tasked by Executive Order to be prepared to respond to emergencies that are international in scope, and to those that may occur within any region of the nation. The Office of Emergency Planning and Operations is the lead organization within DOE for energy emergency planning, preparedness and response activities.
- **NCS:** The NCS mission is to assist the President, the National Security Council (NSC), the Office of Science and Technology Policy (OSTP), and the Office of Management and Budget (OMB) in:
  - Exercise of wartime and nonwartime emergency functions, and
  - Coordination of the planning for and provision of NS/EP Telecommunications for the Federal government.

  Figure 2 shows the NCS organization and its relationships to the NSTAC.
- **NSTAC:** The NSTAC was established by Executive Order in 1982 in response to increasing diversification of the telecommunications industry. The Committee is comprised of Chief Executive Officers, appointed by the President from companies identified in Figure 3, with knowledge and expertise in telecommunications. The Committee's objective is to provide sources of expertise, knowledge and insight not otherwise available within government on issues related to implementation of National Security Telecommunications Policy.

Figure 2
ORGANIZATION:
NATIONAL COMMUNICATIONS SYSTEM (NCS)

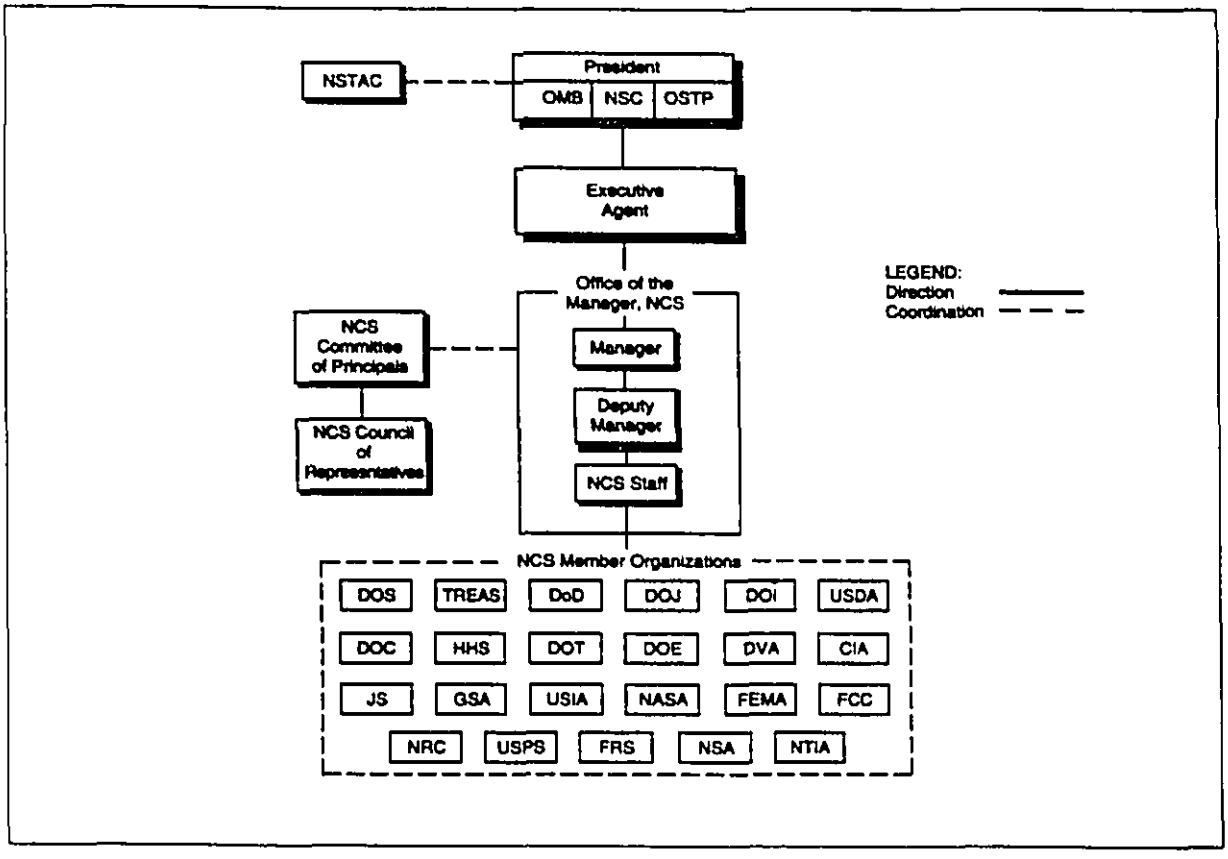


Figure 3
MEMBERS:
NATIONAL SECURITY TELECOMMUNICATIONS ADVISORY COMMITTEE (NSTAC)

AT&T
BELLCORE
BOEING
COMSAT
COMPUTER SCIENCES CORPORATION
ELECTRONIC DATA SYSTEMS
GENERAL ELECTRIC
GTE
HARRIS
HUGHES
IBM
INTERDIGITAL
ITT
LOCKHEED
MARTIN MARIETTA
McCAW COMMUNICATIONS
MCI
METROPOLITAN FIBER SYSTEMS
MOTOROLA
NORTHERN TELECOM
PACIFIC TELECOM
ROCKWELL
SPRINT
UNISYS
U.S. TELEPHONE ASSOCIATION
U.S. WEST
WILLIAMS TELECOMMUNICATIONS

The feasibility of the telecommunications ESP initiative was assessed at meetings in several States attended by representatives of DOE, NCS, the State (Emergency Management Office, Energy Office, and Public Utility Commission (PUC)), the telecommunications industry, and the electric utility industry. The meetings led to these conclusions:

- Specific telecommunication facilities are not currently included in electric utility restoration plans. However, electric utilities and telecommunications companies do coordinate during a disruption.
- The number of essential telecommunications facilities expected to qualify for inclusion in the ESP Restoration Initiative is reasonable and can be incorporated into existing electric utility restoration plans without overloading the restoration process. However, restoration plans may become unworkable if many NS/EP functions besides telecommunications are added later. (Note: DOE's plans are to request that only critical telecommunications facilities be added to existing ESP plans.)
- States may benefit by identifying telecommunications facilities that are essential to support their own emergency response activities. States expressed interest in providing the NCS, through DOE, with information to identify such facilities, but there was no clear commitment to do so from either State. State emergency management offices would be the likely agents to coordinate this identification activity.
- States anticipate an informal process to implement the telecommunications ESP initiative. The State Energy Office, PUC, or Emergency Management Office would receive a State list of essential NS/EP telecommunications facilities from the DOE. States would distribute the list to utilities. Electric utilities and telecommunication companies would participate voluntarily, and the State would coordinate resolution of any difficulties that arise during the process.
- The implementation time required to incorporate NS/EP telecommunications facilities into utility restoration plans is expected to be minimal after the State receives the facility list from DOE.
- Both the serving electric utility and the telecommunications company should be aware of telecommunications facilities identified on the State lists as critical.
- During actual disruptions, electric utilities will use their own judgement in restoration activities and will use pre-established priorities as a guide.
- The list of critical telecommunications facilities is not necessarily all-inclusive; that is, other telecommunications network components could fail due to a lack of commercial electric power and disrupt the ability of NS/EP end-users to communicate. Examples are repeaters, regenerators, and some devices between end-offices and user premises. Local coordination by electric utilities and telecommunication companies during disruptions will address these problems.

The above conclusions guided the design of the telecommunications ESP restoration initiative.

CRITERIA FOR IDENTIFYING CATEGORIES OF CRITICAL TELECOMMUNICATIONS FACILITIES

The Energy Task Force of the NSTAC developed criteria for identifying **categories** of critical telecommunications facilities. The criteria were based on a

narrow definition of critical facilities to ensure that the ESP plans of electric utilities would not be overwhelmed by the number of qualifying telecommunications facilities.

The Task Force defined "critical facilities" to be those that perform functions critical to the monitoring, control, support, signaling, and switching of the voice telecommunications infrastructure (terrestrial and satellite) and divided the facilities into the following three categories:

Category I.
Network facilities or elements essential to monitoring, controlling, or supporting network operations (e.g., network management control centers, operations support systems, signaling network elements).

Category II.
All switching nodes identified by the NCS as serving essential NS/EP end users in local exchange carrier (LEC) or interexchange carrier (IC) networks, (e.g., end offices, access tandems, IC switches, international gateways).

Category III.
Other network elements (not identified in Categories I or II) essential to network operation for call completion, (e.g., regenerators) and identified by service vendors.

APPLICATION OF CRITICALITY CRITERIA

Telecommunications industry representatives assisted the NCS in identifying facilities in Category I which were considered essential to the operation of their respective networks.

Facilities in Category II that support NS/EP traffic were identified by the NCS based on data identifying the location of critical Federal NS/EP users.

The NCS will initially compile a list of specific critical facilities in Categories I and II by State. Changes in the NCS list will be tabulated annually to keep the list current.

Category III includes those facilities essential to network operation, but difficult to identify in advance and too numerous to include in a critical industry NS/EP telecommunications facility list. Therefore, the Task Force concluded that Category III facilities should be identified to the serving electric utility by telecommunication carriers at the actual time of an outage only if: backup power is expected to be depleted before normal restoration would occur and batteries used for backup power would not be able to be recharged; and/or priority restoration is required to maintain network operations.

TELECOMMUNICATIONS ESP IMPLEMENTATION PROCESS

The telecommunications ESP implementation process is illustrated in Figure 4 and includes the following steps:

A. List Preparation

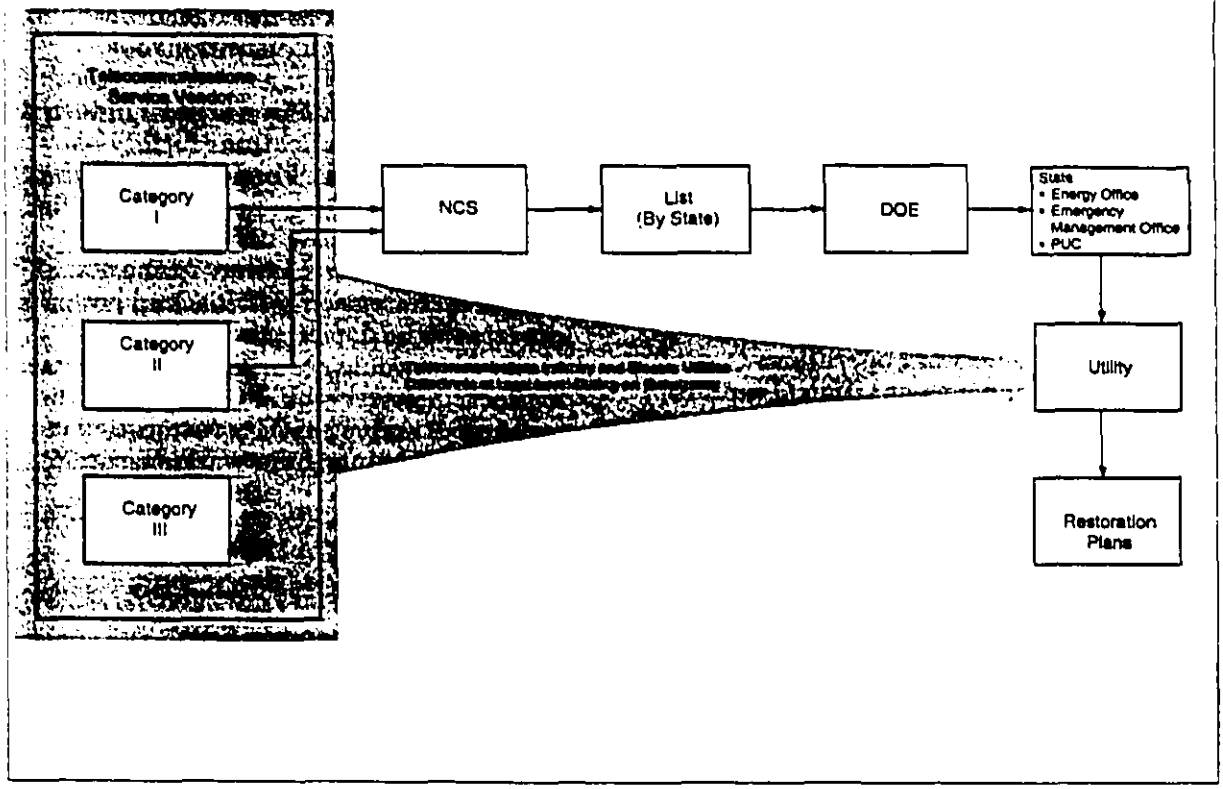
The NCS compiles critical telecommunication facility lists by State and forwards them to DOE. (The complete national list of critical telecommunications facilities in all States is highly sensitive and will not be available beyond the Federal level).

The NCS annually updates these lists and provides the information to DOE. Any modifications identified in the update also are processed as described below.

B. Distribution To States

DOE distributes the facility lists to the appropriate entity in each State (e.g., Emergency Management Office, Energy Office, or Public Utility Commission) and requests that the

Figure 4
TELECOMMUNICATIONS ESP IMPLEMENTATION PROCESS



facilities be added to utilities' ESP plans. (The individual State lists are less sensitive than the national list but should be treated as sensitive).

If a State needs help in identifying telecommunications facilities that serve its critical users, it should provide a list of telephone numbers of such users to DOE. DOE will obtain from NCS a list of any additional telecommunications facilities that may be involved and forward the supplemental information to the State.

C. Notification of Electric Utilities and Telecommunications Companies

The appropriate State entity distributes the critical telecommunications facility list to electric utilities in its area.

Telecommunication companies need to track the progress electric utilities are making in modifying ESP plans to include their telecommunications facilities in emergency restoration plans. For this purpose, DOE will compile and provide to the NCS a list of persons in each State government with lead responsibilities for implementing the ESP initiative.

The NCS will forward this personnel list to telecommunications companies, which can use these contacts to identify utility personnel involved in modifying restoration plans.

D. Modification of Electric Utility ESP Plans

Electric utilities identify the critical telecommunications facilities they serve, using the State critical facility list. Electric utilities modify their ESP plans to include the critical facilities they serve among the highest priority categories.

E. Electric Utility Response During a Disruption

Electric utilities should normally proceed with priority restoration of power to critical telecommunications facilities only upon the request of the telecommunications company.[1] Such a request would indicate that the facility was inoperable because the back-up generator had failed or could not be refueled, or the backup batteries were being exhausted and could not be recharged.

Other telecommunications facilities, in addition to those included in ESP plans, also may be essential to communications network operation but are too numerous to include on a critical facility list. Some of these facilities (i.e., Category III facilities) may require priority electric power restoration to maintain telecommunications network operation under some circumstances. Such restoration requirements will be coordinated by telephone companies and electric utilities on an "as needed" basis.

EMERGENCY FUEL RESUPPLY FOR TELECOMMUNICATIONS COMPANIES' BACKUP GENERATORS

Telecommunications companies normally store fuel at sites with back-up generation. Additionally, they may have priority resupply contracts with local fuel suppliers or actually own fuel commingled with other storage held in suppliers' tanks.

To simplify their emergency response activities, some electric utilities may elect to proceed automatically with priority restoration of critical telecommunications facilities without requiring requests from telecommunications companies.

Since telecommunications services are considered essential, DOE, NCS and telecommunications companies believe it would be counterproductive for States to take fuel supplies intended for backup generators during an emergency.

ACCESS TO DISASTER AREAS

Electric utility repair crews, telecommunications repair crews and fuel resupply personnel for back-up telecommunications generators may be prohibited from entering a disrupted area by security personnel. It is recommended that States review their emergency plans to ensure that such emergency response personnel are admitted to impacted areas on a priority basis, and provided with security protection when necessary and available security resources permit.

1. *To simplify their emergency response activities, some electric utilities may elect to proceed automatically with priority restoration of critical telecommunications facilities without requiring requests from telecommunications companies.*

ACRONYMS AND TECHNICAL TERMS

Access Tandem	A type of phone company central office specifically designed to provide equal access for all long distance/interexchange carriers.
CIA	Central Intelligence Agency
DOC	Department of Commerce
DoD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOS	Department of State
DOT	Department of Transportation
DVA	Department of Veterans Affairs
End Office	The switching office where a customer is connected to receive dial tone.
ESP	Electric Service Priority
ETF	Energy Task Force
FEMA	Federal Emergency Management Agency
FCC	Federal Communications Commission
FRS	Federal Reserve System
GSA	General Services Administration
HHS	Department of Health and Human Services
IC	Interexchange Carrier
IC Switch	Switching entity that connects and determines the routing of calls within the IC network.
International Gateway	Entrance and exit point between a domestic interexchange carrier network and an international carrier network.
JS	Joint Staff of the Department of Defense
LEC	Local Exchange Carrier
NASA	National Aeronautics and Space Administration
NCS	National Communications System

NRC	Nuclear Regulatory Commission
NS/EP	National Security and Emergency Preparedness
NSA	National Security Agency
NSC	National Security Council
NSTAC	National Security Telecommunications Advisory Committee
NTIA	National Telecommunications and Information Administration
OMB	Office of Management and Budget
OSTP	Office of Science and Technology Policy
PUC	Public Utility Commission
Regenerator	Equipment that takes a digital signal that has been distorted by transmission and produces from it a new signal in which the shape, timing and amplitude of pulses have been restored.
Repeater	A device inserted at intervals along a circuit to boost, amplify and/or regenerate the signal being transmitted.
TREAS	Department of the Treasury
USDA	U.S. Department of Agriculture
USIA	U.S. Information Agency
USPS	U.S. Postal Service